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The Blood-Sugar of the Cow in Milk Fever.

By Professor Russell Greig.

An important contribution to the study of milk fever has been made by Professor Pierre A. Fish and Dr. C. E. Hayden, of Cornell Veterinary College. (*Cornell Veterinarian*, 1927, pp. 99 to 131.)

Hayden and Sholl (1925) reported the analyses of 75 samples of blood taken from 43 cows and one bull. With few exceptions all the cows were in milk and all the animals were normal.

They found the average sugar content to be **51.75** mg. per 100 c.c. of blood.

Widmark and Carlens state that the blood-sugar reading for the dry cow and heifer is about **80** mg., and for the milking cow **60** mg. Auger confirms these findings.

Maguire states that the normal is from 80 to 120 m.g. per 100 c.c. of blood.

Hayden and Sholl used the Folin-Wu method, but different methods have been employed by these different investigators and so some difference in the blood-sugar normals might reasonably be expected.

In milk fever, Hayden and Sholl state that the average reading for blood-sugar may be taken as about **83.09** mg.; they therefore found that milk fever was associated with a rise in the blood-sugar (hyperglycæmia).

On the other hand, Widmark and Carlens claimed that an abnormally low blood-sugar content was present in milk fever (hypoglycæmia). Auger and Maguire supported this statement which was developed into a theory upon the cause of the disease.

The theory was given important support by the findings of Widmark and Carlens, who showed that inflation of the udder caused a transient but definite rise in the blood-sugar.

The difficulty of accepting the hypoglycæmia theory was pointed out by the present writer (meeting of Midland Counties' Vet. Med. Assoc., Derby, 1926), who evidenced the work of Hayden and Sholl, Little and Keith, and the results obtained by Dryerre and himself as showing that an increased and not a lowered sugar content was the rule in milk fever.

To this criticism Auger replied that these investigators had fallen into the error of supposing that the high blood-sugar reading in milk fever represented glucose alone, whereas it, in fact, represented lactose. In other words, the blood in milk fever contained little or no glucose and the tissues were suffering from glucose starvation. The fact that the blood in milk fever showed a high sugar content was due to the presence of lactose reabsorbed from the milk in the first flush of lactation and, since the tissues cannot make use of lactose, the presence of this sugar in the blood was without significance.

This assertion was difficult to answer, since no practicable technique was known whereby glucose could be differentiated from lactose in the blood.

The technical difficulties have been overcome by Folin and Svedburg (*Jour. Biol. Chem.*, 1926, lxx., 405), who applied the principle of fermentation to the separation of fermentable and non-fermentable substances in the blood-filtrate obtained by the method of Folin-Wu.

The method appears to be reliable and delicate, and, according to Fish and Hayden: "As a result of our experiments, no doubt is left in our minds as to the effectiveness of the method in determining the nature of the blood sugar."

Fish and Hayden (1927) examined the blood in thirteen cases of milk fever, in seven of which the glucose was differentiated from the lactose by the Folin-Svedburg test.

They found that a hyperglycæmia was present; the average reading for sugar approximating **83** mg., as compared with the normal **51.75** mg.

The supposition that this hyperglycæmia was due principally to the presence of lactose was not confirmed by the Folin-Svedburg test.

The high sugar readings in milk fever were found to result from the presence of glucose alone. In only one case an appreciable quantity of lactose was present with the glucose.

Inflation of the udder in most cases brings about the appearance of lactose in the blood within a few minutes, and in one case it has represented as much as 54·1 per cent. of the total sugar. The inflation apparently causes the lactose to be reabsorbed from the milk, but there does not seem to be any connection between the amount of lactose in the blood and the progress of the case. This is to be expected, for it is generally agreed that the blood regards lactose as a foreign substance and eliminates it in the urine.

Inflation usually also causes an increase in the blood-glucose, but this increase is very variable in amount.

These points are well illustrated in the following table:—

Case No. 9.

Mg. of sugar per 100 *c.c. of blood.*

Time of Sample.	Glucose and Lactose.	Lactose	Glucose
Before inflation ...	80·0	00·0	80·0
15 min. after... ...	111·6	13·83	97·77
30 min. after... ...	116·8	39·3	77·5
60 min. after... ...	144·6	50·36	94·24
90 min. after... ...	140·0	60·7	79·3
310 min. after ...	140·0	47·5	92·5
17 hr., 50 min. ...	93·2	00·0	93·2
26 hr., 50 min. ...	63·5	00·0	63·5
42 hr. after	51·3	00·0	51·3

" The cow was still down when the sixth sample was taken. She had to be helped up the next morning and was a little unsteady on her feet.

" Readings are recorded for the two days following the attack. It will be noticed that there was no lactose in the blood after the day of the attack.

" The glucose was high at the time of the pre-inflation sample. It did not decrease much until twenty-six hours had passed. After forty-two hours it had come down to 51·3 mg. This is within our normal range."

Discussion.

" These cases fail to demonstrate a hypoglycæmia in milk fever. The demonstration is more complete because the blood-sugar has been analysed to determine the relative quantities of lactose and glucose in the total sugar. With one exception there was not an appreciable quantity of lactose in the sample taken before inflation. The pre-inflation glucose average of 83·09 mg. in six cases is a hyperglycæmia when compared with the blood-sugar standard of 60 mg. set for the milk cow by Widmark and Carlens and Auger."

Fish remarks : " The injection of a solution of glucose is the logical remedy if the condition of milk fever is due to a hypoglycæmia ; but if there is already a normal or an increased amount of glucose in the blood, as our cases indicate, the injection of more glucose would seemingly add more fuel to the flames. Although the tissues may be malfunctioning and may not be able to utilise the glucose available to them, it is also conceivable that in those cases of milk fever in which there is a hyperglycæmia a condition has arisen in which the increased amount of glucose in the blood is present as a defence against the causative agent and the injection of glucose solutions would then be just as logical if, by adding reinforcements, they turned the tide of battle in favour of the cure of the patient."

" The physiological phenomena associated with milk fever seem to point to the tissues as the centre from which the complicated train of symptoms emerge. There is apparently defective oxidation which affects the oxygen, carbon dioxide and hydrogen ion concentration of the blood. The changed character of the blood affects the whole body including the endocrine system and as a result there is a sub-normal temperature, lower blood pressure, acidosis or alkalosis, more or less tissue asphyxiation, and exhaustion ending in coma or more rarely convulsions."

" A calcium deficiency has been demonstrated during pregnancy and during lactation, which the mineral content of the ration apparently cannot satisfy. A dietary deficiency of the mother involves a demand upon her own tissues to supply the deficiency. In this way the parathyroid glands may be involved relative to calcium metabolism. (Little and Wright find a reduction of from 20 to 60 per cent. of the calcium content of the blood in cases of milk fever.) Their disfunction not only affects calcium metabolism, but may induce a certain amount of guanidin poisoning which, according to Watanabe, reduces the amount of sugar in the blood. This possibility adds another factor for consideration and makes the matter still more complicated."

Conclusion.

" A variation in the sugar content of the blood, either above or below normal, has not been satisfactorily demonstrated as the causative factor ; it is more likely a secondary factor resulting from an interference with the processes of oxidation in the tissues. The factor responsible for the changed tissue conditions is still to be determined."

REPORT.

Annual Report of Proceedings under the Diseases of Animals Acts for the Year 1926.

The customary clear and concise report of the Chief Veterinary Officer of the Ministry of Agriculture on the work of his department under the Diseases of Animals Acts, 1894 to 1925, is now available for purchase at any of His Majesty's Stationery Offices at home, or at representative publication offices abroad, at the published price of 2s. It is a record of service efficiently carried out, and most instructive to all who have the welfare of our livestock industry at heart. It is particularly interesting inasmuch as it throws a new light on the incidence of foot-and-mouth disease in the United Kingdom, and it records the first year's experience of the application of the Tuberculosis Order of 1925.

The report is divided into Part I, dealing wth the position of Great Britain as to animal diseases ; Part II, relating to importation and exportation, protection of animals during transit, markets, etc. ; Part III, The Veterinary Laboratory, New Haw, Weybridge ; and appendices summarising the Regulations under the Diseases of Animals Acts ; warning notices to stockowners ; statistics relating to animal diseases in Great Britain, and statistics relating to the number of animals in the country and the number imported and exported. In this review it is proposed to deal only with Parts I and II of the Report, as Part III refers solely to administrative undertakings of the Laboratory, and leaves research work to be reported on separately.

Part I.—Position of Great Britain as to Animal Diseases.

Foot-and-Mouth Disease.

At the beginning of the year there were in existence ten infected areas remaining over from the latter part of 1925. The year was conspicuous for the large number of new centres, of which there were no fewer than 44. Of these, 40 were apparently initial outbreaks of invasion, there being no discoverable connection between remaining cases nor with each other. In 29 of the centres there was no spread of infection from the initial case or cases. It would seem that the large number of new centres is attributable to the extreme prevalence of foot-and-mouth disease on the Continent, which is aptly explained in a table giving the number of outbreaks in certain countries in 1926 as follows : Germany, 187,527 (56,348 in 1925) ; Denmark, 97,434 (53,617 in 1925) ; Holland, 62,656 (30,939 in 1925) ; Belgium, 35,519 (3,008 in 1925) ; France, 48,959 (17,004 in 1925). From the recorded 44 new centres of disease there resulted a total of 204 outbreaks (a small number in comparison with Continental recorded outbreaks), of which the following were the chief : 25 outbreaks amongst sheep from a centre at Buttercrambe, in the North Riding of Yorkshire, between 26th January and 20th April—

starlings, of which there were large numbers in the area at the time, probably being responsible for the spread; 45 outbreaks from a centre at Carluke, in Lanark, between 22nd May and 15th September, resulting from the importation of pig carcases from the Continent for bacon curing; 26 outbreaks in the Colwyn Bay district, Denbigh, in August and September, in a compact group covering nine square miles and due to delay in reporting; 11 outbreaks from a centre at Battlefield, Salop, in September, all within four miles of the original case; 10 outbreaks from a centre at Chester, the probable origin being hessian wrappings used for imported goods. An outbreak in Hertford (East Barnet) in a herd of pedigree Jersey cattle was attributed to foreign packing straw which had not been destroyed as required by the Packing Materials Order, and the owner was fined for a breach of the Order accordingly. On premises at Ashmansworth, in Hants, an outbreak occurred in pigs on December 6th, from eating the flesh of a calf purchased as nine days old at Newbury market on 18th November. It died eight days after, and it was ascertained that for a few days before its death it showed symptoms of diarrhœa. This case is specially mentioned, as very young animals may become affected with foot-and-mouth disease and die without developing lesions in the mouth and feet. The circumstance formed the basis of a special notice warning pig-keepers as to this danger. A similar instance occurred at Burgess Hill, in East Sussex.

The circumstances which led to the discovery on the 24th May of foot-and-mouth disease in pig carcases imported from the Continent and of the consequential outbreaks, are worth reviewing more fully. Disease was found in three shipments, viz.:—(*a*) S.S. "Lanrick," from Rotterdam to Leith, with 963 pig carcases, distributed to eleven bacon factories in Scotland and one at Carlisle; typical lesions were found on the carcases at the bacon factory, Carluke, Lanark, and disease was also found in carcases at Kilmarnock (Ayrshire), Carlisle (Cumberland), and Thornhill (Dumfriesshire); the carcases actually diseased were of Belgian origin. (*b*) S.S. "Bernicia," from Rotterdam to Newcastle-on-Tyne: Disease was found in eight pig carcases at the bacon factory at Carlisle, and carcases of calves, sheep, lambs and pigs from the same shipment were distributed to retail butchers in Newcastle district; an infected pig carcase bore a label shewing Holland as the place of origin. (*c*) S.S. "Schokland," from Rotterdam to Leith (31st May): Lesions were found in a number of pig carcases on the quay; the consignment was from Belgium; the vessel was returned to Rotterdam, when, after disinfection under the direction of the Netherlands Government, the cargo exclusive of meat and meat products was admitted. The occurrences established without doubt one of the most dangerous sources of the introduction of foot-and-mouth disease into Great Britain. In Lanarkshire alone it spread to 45 separate farms, chiefly through the wanderings of unemployed miners during the coal strike, and the cost to the State in compensation in that area amounted to £40,931, as well as a considerable sum for disinfection.

A serious aspect of the situation is that no system of meat inspection can provide adequate protection against risk of infection from carcases of animals slaughtered in the incubative stages of the disease, and a further danger exists in the importation in boxes and hampers of large quantities of offal of pigs and calves killed on the Continent for the English markets. The obvious action to be taken by the Ministry was one of prohibition into Great Britain of all carcases and parts of carcases (including offals) from the Continent of Europe. This was effected by Order entitled the "Importation of Carcases (Prohibition) Order of 1926," its application to be immediate. To substantiate this action the Foot-and-Mouth Disease Research Committee anticipated their Second Progress Report in publishing the results of their experiments relative to the viability of the virus of the disease. Briefly, these were:—

(1) That the virus present in the flesh of a diseased animal becomes inert 24 hours after the slaughter of the animal.

(2) That in blood it may remain active for 30 to 40 days after slaughter; and

(3) That in bone marrow the virus may remain active for as long as 76 days after slaughter.

Furthermore, on this information the Ministry was compelled to issue another Order entitled the Foot-and-Mouth Disease (Boiling of Animal Foodstuffs) Order of 1927, which forbids the feeding to animals except after being boiled for one hour of (*a*) any meat, bones, offal or other part of a carcase of an animal, or (*b*) any swill or broken or waste foodstuffs which have been in contact with any meat, bones, offal or other part of a carcase. The Order applies to all animal waste of whatever origin, British or foreign.

With regard to re-stocking and freedom of infected premises the following arrangements are now in operation: "Eight weeks from the date of completion of slaughter or six weeks from the date of completion of disinfection—whichever gives the earlier resulting date—owners of infected farms are permitted to move stock on to their premises by licence normally to the extent of fifty per cent. of the stock slaughtered. Three weeks after the commencement of re-stocking a veterinary inspection of the stock moved on to the infected place is made, and if no evidence of disease is found the premises are immediately freed. Thus the period of operation of infected place restrictions is normally ten to eleven weeks. The Ministry may, however, postpone re-stocking or freedom whenever unfavourable circumstances arise rendering such a course advisable."

(2) TUBERCULOSIS.

In commenting generally on the administration of the Tuberculosis Order of 1925, the report explains that: "It is desirable at the outset

of this Report to correct a prevailing and erroneous impression that the Order has in view the eradication of bovine tuberculosis. It would not be practicable to achieve such an object as this without unduly depleting the herds of this country. Tuberculous bovine animals which are most dangerous in the spread of the disease may be divided into two distinct categories: (*a*) cows giving tuberculous milk which are a danger to human health as well as to other animals, and (*b*) bovine animals freely excreting tubercle bacilli which are the main source of spread of tuberculosis to other animals. Both these categories are dealt with in the Order, the intention being to proceed as far as practicable towards the elimination of those two classes of affected animals and thus to remove the source of immediate danger to human health, and also to reduce the amount of infection able to spread the disease to other animals."

A summary of the results of the administration of the Tuberculosis Order from the 1st September, 1925, to the 31st March, 1927, is given as follows:—"A close examination of the returns from local authorities shows during the 19 months from 1st September, 1925, to 31st March, 1927, 445,547 bovine animals (including 363,987 cows and heifers) were examined on 36,200 premises in Great Britain on which disease was reported to exist or on which it was reported that there were cows giving tuberculous milk. There was on these premises a total of 1,168,381 bovine animals (869,591 of which were cows and heifers). The total number of these found affected was 28,819, or only 2·5 per cent. of the bovine animals on the premises or 6·5 per cent. of those actually examined. Of the affected animals 27,569 were cows and heifers' of which only 4,027 were stated to be affected with tuberculosis of the udder or giving tuberculous milk. The number so affected is only 0·5 per cent. of the total number of cows and heifers on the premises inspected.

"The operations under the Order do not furnish any basis for estimating the actual extent of bovine tuberculosis in this country, and cannot do so inasmuch as the clinically healthy but nevertheless tuberculous animal is not viewed by the Order.

"Some allowance must be made for the fact that the Order is not yet quite fully known to stockowners or efficiently enforced by some local authorities, and that the total number of animals recorded as 'on premises' in respect of which reports are made, or as 'examined' on those premises, has been inflated by the number which have been recorded more than once on account of a second or subsequent report from the same premises. Subject to these qualifications, and allowing a deduction of 10 per cent. in the figures in respect of animals on inspected premises more than once, the following table shows the percentage of animals which had reached the stage of tuberculous infection which brought them within the scope of the Order, and which, as explained at the beginning of this report, are the most dangerous sources of infection both to human beings and to animals:—

Total number of bovine animals on inspected premises.	Total number of bovine animals examined on such premises.	Total number of bovine animals found affected.	Number of cows and heifers affected with Tuberculosis of udder or giving Tuberculous milk (included in column 3).
1	2	3	4
1,051,543 (including 782,632 cows and heifers).	400,992 (including 327,588 cows and heifers).	28,819 or 2·7% of total in column 1, and 7·2% of total in column 2.	4,027 or 0·5% of cows and heifers, in column 1, and 1·2% of those in column 2.

In view of the extensive use of the tuberculin test in the early months of the operation of the Order, the Ministry, under a circular letter dated 11th February, 1926, urged: "That the test should be applied more sparingly except in possible cases of Johne's disease, where its use may be desirable to prevent the slaughter of 'screw' cattle which do not come within the scope of the Order; furthermore, the use of the tuberculin test in cases in which diagnosis should be successfully arrived at by other means adds considerably and unnecessarily to the cost of administration."

(3) Sheep Scab.

The number of outbreaks in Great Britain during 1926 was 717, an increase of 47 outbreaks over 1925. England showed a decrease of 27 outbreaks; Wales an increase of 67 outbreaks; and Scotland an increase of 7 outbreaks. The position of Wales was very unsatisfactory, Cardiganshire and Carnarvonshire being the worst counties. In August, 1925, a draft Order embodying general compulsory double dipping of all sheep in the country within a specified period of the year (namely 15th July to 31st August) concurrently with restrictions on movement as a means of eradicating sheep scab, was submitted to various representative agricultural bodies for their consideration, but the policy was not acceptable. The efforts of the Ministry will, therefore, be directed principally to the improvement of the existing methods of dealing with outbreaks of scab on individual premises and in infected areas. The procedure will continue to be that laid down in the various Sheep Scab Orders, subject to certain necessary amendments which the Ministry is preparing, and a possible limitation of the extent of double dipping areas.

(4) Swine Fever.

The incidence of swine fever was the lowest in any year since 1905. There were 1,200 confirmed cases, or 15·7 per cent., of the number reported. The discretionary power of the Ministry to slaughter swine affected with, or suspected of, swine fever, or exposed to infection, is only exercised when necessary to establish diagnosis and not as a means of preventing spread. 1,454 animals were so destroyed.

(5) Anthrax.

During the year 703 outbreaks were confirmed, 434 of which occurred in Scotland, 264 in England, and 5 in Wales. It is interesting to remark that "the disease occurred five times on one set of premises,

four times on two sets of premises, three times on twelve sets of premises, and twice on fifty sets of premises, that is to say in 84 outbreaks in 65 sets of premises disease may have arisen from a previous outbreak in the same year. In addition to these 84 outbreaks there occurred 110 outbreaks on premises on which disease was known to have occurred within the previous five years." The probable source of 371 outbreaks on previously clean premises was the use of imported feeding stuffs.

(6) GLANDERS.

Notification was received in one instance only, viz., at premises in Fifeshire.

(7) PARASITIC MANGE.

433 outbreaks were reported. There has been a steady diminution since 1919.

PART II.—IMPORTATION AND EXPORTATION.

(8) IMPORTATION OF FAT CATTLE FROM ABROAD.

14,428 fat cattle for slaughter at ports of landing were imported: 11,291 from Canada, 2,958 from the United States, and 179 from the Union of South Africa. In addition, 1,370 fat pigs were landed from Canada for slaughter at the wharf. Imports were over 16,000 less than last year.

(9) IMPORTATION OF CANADIAN STORE CATTLE.

64,322 cattle were landed; 44,356 of these were slaughtered, leaving only 19,966 for movement into the interior for further feeding. Most of the latter are landed at the Scottish ports of Glasgow and Dundee. The imports were over 20,000 less than in 1925.

(10) IMPORTS FROM IRELAND, ISLE OF MAN AND CHANNEL ISLANDS.

Ireland sent 720,444 cattle, 523,362 sheep, and 187,263 pigs, a reduction of 60,248 cattle on 1925, but an increase of 86,920 sheep and 129,017 pigs. 1,002 cattle were imported from the Channel Islands, and 8,031 sheep from Isle of Man.

(11) IMPORTATION OF PEDIGREE ANIMALS.

Under the Importation of Pedigree Animals Act of 1925 the following periods of quarantine are prescribed: sheep from New Zealand (Corriedale ewes and rams), 28 days; cattle from South Africa (Friesland cattle), four calendar months from date of shipment, and not less than three months from the date of arrival at the quarantine station in this country; swine from Canada, 20 days. Imports must be accompanied by certificates from Dominion authorities of freedom from certain specified diseases, certificates of record books of breeds, declarations that fodder and litter were Dominion products, and declarations of isolation during transit by sea, etc.

(12) IMPORTATION OF DOGS AND OTHER CANINES.

857 dogs were landed for quarantine, 12 for re-export within 48 hours, 43 performing dogs under special licence, and 46 foxes.

(13) EXPORTATION OF HORSES.

7,356 live horses, and 46,483 carcases were exported, 1,094 horses being rejected for shipment. Both live horses and carcases shewed a marked reduction on previous years due to an increase of the consumption of frozen meat in Europe, and a better demand for working horses in this country.

(14) MARKETS, SALES AND LAIRS ORDER OF 1925, AND DISEASES OF ANIMALS (DISINFECTION) ORDER OF 1926.

The former came into operation on 1st February, 1926, and provides for an extension of the requirement of paving of markets, the paving and licensing of lairs, and a revision of the cleansing and disinfection of both. The Order has been well received. The Disinfection Order prescribes the standards of disinfectants to be used, and came into force on 1st July, 1926. In the case of vessels engaged in Irish and coastwise traffic in animals, and also carrying foodstuffs, researches are proceeding to discover an effective disinfectant which will not taint foodstuffs.

CLINICAL AND CASE REPORTS.

Heel Bug.

By W. T. D. BROAD, M.R.C.V.S., Marlborough.

In the *Veterinary Record* of September 10th last a correspondent asked for a description of the heel bug as affecting racehorses. Every year from July until the end of September we get trouble, more or less, from the effects of the red harvest mite, *Septus autumnalis*, which, without preventive measures, causes irritation to horses' heels, and various sequelæ, such as swelled legs and cracked heels, etc.

One method of prevention to mitigate the evil is to sponge down the legs with Jeyes' fluid and water in which is stirred a little paraffin before sending out to exercise on the downs.

In the early summer of 1923, long before the harvesters began their work, there was an outbreak of equine variola which spread through many racing stables.

The lesions appeared well up the legs as well as the heels, and in a few instances on the under surface of the tail and round the mouth, where the typical stages of the disease were best shown. This was the year when the "heel bug" was very prominent in the lay papers. It was clear that some of the correspondents who wrote to the lay papers had not seen an outbreak of the equine variola then prevalent.

The red mite, or harvest bug, can often be seen on a rabbit caught in the harvest field, around the anus, making the latter look as if it had been peppered with cayenne.

A Few Everyday Cases.

By ARTHUR NEW, M.R.C.V.S., Ashton-under-Lyne.

On October 15th, 1927, a cat was received that had been injured on the right side of the face with a hook, and a

large abscess had formed at the point of injury just under the eye, the pressure from which forced the membrana nictitans over the eye. The abscess was ripe and was lanced, when a quantity of spicules of bone exuded with the pus. The cavity was washed out with antiseptic. As the membrana nictitans was very much congested and enlarged it was treated with cocaine and removed. The wounds rapidly healed and the animal was sent home on October 22nd.

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On September 24, 1927, an Irish terrier was received that had been discharging large quantities of blood from small black tumours on the scrotum. This had been going on for some time. I had the animal chloroformed and castrated and removed the greater part of the scrotum with the actual cautery. The wound was slow in healing and an ulcerous wound formed on the inner side of the thigh, but with antiseptic treatment the animal was sent away cured on October 19th, 1927.

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An Old English sheep dog was brought here on September 29th, 1927, that had been cut on the shoulder with a broken photographic plate ten days previously. For a space of ten inches square the skin was intensely inflamed, with large masses of scabs and deep cracks giving off a very fœtid odour. The animal was feverish and off his food. Several antiseptic dressings were tried for ten days without any improvement, and the owner was anxious for some sign of recovery or otherwise to be advised to have the animal destroyed. On the tenth day of treatment I tried the old-fashioned remedy of a strong solution of pulv. ferri sulph. exsicc., and this acted like a charm, the dog being sent home cured on October 29th.

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On October 4th, 1927, an Irish terrier was brought with a large hæmatoma of the left ear, covering almost the whole flap. I withdrew the bulk of highly-coloured fluid with an hypodermic syringe and injected a dose of streptococcus staphylococcus bacterin (equine), the same treatment being carried out every third day for four times. The fluid withdrawn at the third injection was perfectly clear. The swelling rapidly subsided after the fourth injection, the ear becoming somewhat wrinkled and slightly deformed. The animal was, however, quite well on October 31st. This is the best treatment I have used for this class of abscess, all the cases doing well in about three weeks.

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During May this year a five months' old puppy was sent here that had swallowed a mutton chop bone. The bone could be distinctly felt down the neck, its head being near the larynx. I had the animal chloroformed to insensibility and suspended by the hind legs and endeavoured to press the bone down by manipulation but was unable to do so. As I was not satisfied that I could operate successfully and remove the bone, I telephoned the owner to have the dog destroyed, to which he agreed. Upon visiting the kennel to destroy him I found that as he was coming out of the chloroform he had vomited the bone. He was sent home next day perfectly well.

REVIEW.

[The Prospective Development of Peru as a Sheep-Breeding and Wool-Growing Country, by ALDRED F. BARKER, M.Sc. (Professor of Textile Industries, University of Leeds, England), pp. 174 and 93 illustrations.]

Many readers of this journal will know that about the year 1920 Colonel R. J. Stordy, formerly Chief Veterinary Officer of Kenya Colony, was commissioned by the Peruvian Government to establish and conduct an experimental sheep-breeding and farming station on the Peruvian tableland at an altitude of over 12,000 feet, with a view to improving the wool production and fertility of the native breeds of sheep. At such great heights and in or near the tropics it is common to find in sheep that wool production is light and fertility is low, so that full economic advantage cannot be taken of enormous areas of potentially valuable grazing land.

In these circumstances it is obvious that sheep-farming on a large scale will not pay for the cost of fencing, management and labour. Such sheep-farming as there is in the Peruvian Highlands is mainly carried on by native Indians, who obtain from the animals, in return for their care, wool for the hand-weaving of the cloth they wear and some meat for food, but little or no surplus either of wool or meat for marketing.

These native sheep produce a fleece that weighs scarcely 1½lbs. and bear a meagre crop of lambs. Professor Barker, in referring to Colonel Stordy's work at "The Granja Modele de Puno," says: "Some five years of experimentation have been sufficient to define both the possibilities and the lines of development of the wonderful tract of some 20,000,000 acres of sheep country. . . . . Colonel Stordy's experiments show that if well-bred rams or even half-bred rams are introduced the fleece weight will be increased from 3 to 5lbs. . . . . The quality of wool already produced suggests that 'The Improved Peruvian Wool' when stabilised and produced in sufficient quantity may well challenge comparison with the wools from Australasia and the Cape as sold at the London Wool Sales." We read elsewhere in the book that the fertility has also been much improved by these experimental crossings.

In other parts of the report there are many further highly appreciative references to our colleague's work in Peru.

In short, it would appear that Professor Barker, on the whole, is optimistic about the future of sheep-breeding in the Andes provided Colonel Stordy's efforts are extended in the right directions and that fencing is undertaken.

Those who know Colonel Stordy will agree that the business of investigation is in competent hands and that if he fails ultimately in his effort to put sheep-farming among the Andes on a profitable commercial basis, it will probably be because in the present state of knowledge the effort cannot succeed.

One need not be a pessimist to observe that, notwithstanding successful experimentation within the scope of a model farm, failure may follow the inexorable tendency for the subject of experiment to revert to type under more natural conditions.

This is as much of Professor Barker's work as will interest the veterinarian, unless he is also a sheep breeder or an industrial technologist. From a technological point of view there is a great deal to admire in Professor Barker's report, but it seems to me too voluminous and disconnected to achieve its full value as a work of reference upon sheep-breeding in Peru: I think that the author has made the mistake, so common among keen technologists, of allowing the true gist of the matter to be submerged by a learned and abstruse treatise upon all sorts of associated things. The text is considerably enlivened by the inclusion of a large number of excellent photographs, some technical and some artistic: the latter comprise charming coloured landscapes of Peruvian mountain and tableland scenery. Professor Barker says generously of the illustrations: "The greater number of these photographs have been actually taken and developed by Colonel Stordy, and they form perhaps the most characteristic feature of this work, which without them would be infinitely poorer." J. W. R.

Action over a "Shiverer."

A horse that refused to back was the subject of an action at the Harrogate County Court on October 21st before his Honour Judge McCarthy, when J. Wade and Sons, of Wakefield Road, Leeds, claimed £31 for alleged breach of warranty from John Welch, a farmer, of Hall Farm, Hay-a-Park, Knaresborough.

Mr. Burrows said that the plaintiffs bought a horse from the defendant, who, before the purchase was effected, was told that it was essential that the animal should be able to back. A few days after the horse was delivered the plaintiffs formed the opinion that it was a "shiverer," and with that complaint a horse was physically unfit to back.

Mr. S. Wharam, a veterinary surgeon, of Leeds, said he examined the horse on July 18, and found it was a "shiverer," which was a complex nervous derangement affecting the hindquarters, and causing incapability to back properly. The majority of professors investigating the disease considered that it was hereditary.

The defendant said that he had bred the horse, and that it had shown no signs of shivering. Mr. T. Hall, a veterinary surgeon, of Knaresborough, said that it was possible for a horse to develop shivering in a very short time. A shock or a railway journey might bring it on.

For the defendant it was submitted that the horse was not a "shiverer" when he parted with it, and that the defendant's statement about soundness in reply to a specific inquiry could not be regarded as a warranty.

His Honour found there was a warranty and said that it would be preposterous to suggest that it was a sound horse on June 24, the date of sale, if it had the shivers on June 28. Judgment was given for the plaintiffs for £30 with costs.

Biology in Modern Life.—At the opening meeting of the Edinburgh University Biological Society, Principal O. Charnock Bradley M.D., D.Sc., of the Royal (Dick) Veterinary College, addressed the members. The speaker gave a rapid survey of the modern science of biology, advising his hearers not to follow the method of analysis too closely, but to adopt as broad-minded a position as possible. He stressed the fundamental position of biology in modern life, showing that the problems of food production, of sociology, of afforestation, of fisheries, and of colonisation were, at bottom, biological. In conclusion, Principal Bradley emphasised the importance of research in pure biology, as it was on facts discovered in that science that advance in applied and economic biology was based.—*The Scotsman.*

The Central Veterinary Society.

"Record" Attendance at the Annual Dinner.

Professor Macqueen receives the "Victory Medal."

The passing of the years brings, not weakness, but an accession of strength to the Central Division of the N.V.M.A., as was exemplified by the presence of a "record" number of 122 Fellows, guests and lady visitors on the occasion of the fifty-fourth annual dinner of the Society, which was held at the Trocadero Restaurant, London, on Thursday, November 3rd, 1927.

It is recognised that no other function in the corporate life of the veterinary profession can vie with the "Central Dinner" as a social function, and this year, with the attendance of an unprecedented number of ladies, the banqueting hall presented a brilliant scene.

A reception by the President and Mrs. W. K. Townson preceded the dinner, and the success of the evening was further enhanced by a musical programme of exceptional attractiveness, for which Miss Eva Hunsdon Brown (soprano), Mr. Tom Kinniburgh (bass), and Mr. T. C. Sterndale Bennett (original songs at the piano), were responsible.

The Loyal Toasts having been duly honoured, Mr. W. T. Mellows, LL.B., M.B.E., town clerk of Peterborough (the President's "home town") submitted "The Central Veterinary Society," in the following terms: When I was invited, two or three days ago, to deputise for another gentleman who was going to propose this toast, I little realised what a distinguished audience I was going to address.

To one who, like myself, has spent most of his time in an office, the profession of veterinary surgeon appears to be a very attractive one. (Laughter.) I understand that in the winter the veterinary surgeon is generally to be found in the hunting field and that in the summer he divides his time between agricultural shows and race meetings, and altogether, I suppose, he leads the life of a country sportsman. (Laughter.)

I believe I am right in saying that some of you are entomologists, as I am; you spend a good deal of your time in studying the pests and parasites which afflict the beasts of the field and which cause so much loss to mankind. Others of you, I believe, wage incessant warfare against the pestilences and the murrains from which our stock suffer, and not only in this country, but in the tropics.

I look upon you as the pioneers of sanitation—those who help to make the unwholesome places of the world more habitable. (Cheers.)

It is a very great pleasure and privilege for me to be here this evening as your guest. I come from the same town as your President and I am assure you that we in Peterborough feel it a very great honour that one of our municipal officers has been elevated to the important position of President of your distinguished Society. (Cheers.) I expect that Mr. Townson is very well known to you all. He is a relative of the late Mr. Frank Garnett, who did so much for your profession and, I believe, held the office of President of the Royal College of Veterinary Surgeons longer than any other man. If Mr. Townson follows in

the footsteps of his kinsman I am sure you will find him a very worthy President. (Cheers.) I have been associated with Mr. Townson as his colleague for some years, in fact, since he was demobilised, and I can assure you that we in Peterborough have a very high opinion of him. (Cheers.) We know him to be the administrator of the various Orders that are sent down from time to time by the Ministry of Agriculture—an exceedingly efficient administrator. He is an expert in all matters pertaining to the duties of veterinary surgeon to a local authority. (Hear, hear.) Those of us who come from Peterborough would like to join with you in wishing him a very successful year of office. (Cheers.)

As you would expect from one who is meeting with you for the first time, I know, I must confess, very little about your Society. I understand it was founded in the year 1870 and that you are the principal veterinary surgeons' society in the country; also that you hold more meetings than any other veterinary society. I believe you hold your meetings in the buildings of the Royal College, in Red Lion Square. I am told that you have a very dignified meeting room there. I may say that it must be a very great inspiration to you to hold your meetings in such dignified surroundings.

I should like to wish your Society every success. I hope that your efforts will lead to a great advancement in veterinary science, and I trust and believe that under the presidency of my friend Mr. Townson you will have a very successful year. (Loud cheeers.)

The PRESIDENT, Captain W. K. Townson, M.R.C.V.S., who was loudly acclaimed on rising to respond, said: I have to thank you very much Mr. Mellows, on behalf of the Central Veterinary Society, for proposing this toast, and you, ladies and gentlemen, for the way in which you have received it.

I expected that I should have to make a speech to-night, and on making enquiries from an eminent orator, I asked him the best way to get on with it. (Laughter.) He said "Don't look up and don't look down—you will receive no inspiration from either place, but carry your gaze along the level of the heads of your audience; treat your audience as if they were not there, and when your hands become damp and your knees begin to shake it is a sign that you are full of energy. Now, ladies and gentlemen, I am brimming over with energy. (Laughter.)

I want first of all, without trespassing on the province of the proposer of the toast of "the Visitors," to take this opportunity of welcoming our many distinguished guests who are giving us the pleasure of their company this evening. (Cheers.) I am sure that the men here are as pleased to see the ladies here to-night as Adam was to see Eve in the Garden of Eden. (Laughter.)

I should like to thank Mr. Mellows for the very kind remarks he made concerning myself; it will be my aim to try and deserve them. I enter on my year of office fully realising that the splendid record of my distinguished predecessors has made my task a very difficult one. I am sure that I feel that my responsibilities are increased when I think of the excellent way my predecessor, Major Dunkin, has upheld the traditions of this office. Major Dunkin is not only an eminent scientist, but by his outstanding personality and sterling character, and his great grip of business detail, coupled with a wonderful power of oratory, he has awakened feelings of esteem and affection amongst the fellows of our Society. (Cheers.) Major Dunkin's great work at Mill Hill is well known; it does indeed deserve to be chronicled as of national importance. Devotion to duty is one of the greatest principles of life, and I feel that, on Major Dunkin's vacating the chair, I should say that during his occupancy of it he has maintained the traditions set up by his distinguished predecessors. (Cheers.)

The success of the Central Veterinary Society is also due to a great extent to the ceaseless energies of our hon. secretary, Captain Macdonald. (Cheers.) Captain Macdonald has conducted the affairs of our Society for several years in a thoroughly business-like manner. The excellent way in which our annual dinners are arranged is a tribute to his organising capabilities. (Hear, hear.) I am afraid that we do not all stop to think of the great amount of self-sacrifice involved in being an hon. secretary. I know that Captain Macdonald has given many, many hours of his leisure on behalf of our Society, and I feel that this should be an occasion when we should let him know how really grateful we are. (Cheers.)

It should be remembered that the success a president makes of his year of office depends to a great extent on the guidance and assistance he receives from the hon. secretary, and during the short time I have occupied the chair I have been very conscious of the great assistance I have been given by Captain Macdonald. (Cheers.)

There is yet another official to whom our best thanks are due, and that is our worthy hon. treasurer. (Cheers.) For the very long period of twenty-seven years Mr. Stroud has kept us out of the bankruptcy court; in fact, he has done this so thoroughly that we have a substantial amount invested. I am sure you will all agree that the finances of our Society could not be entrusted to better hands. We do not wish Mr. Stroud to think that his services are taken for granted, and I want to take this opportunity of letting him know that his splendid work is really appreciated. (Cheers.)

Amongst those who are also responsible for the success of this Society is a very old friend of ours, Mr. James Rowe. I believe Mr. Rowe is our oldest member and was at the inaugural meeting of this Society in 1870; he has held the offices of president, vice-president, hon. secretary and hon. treasurer, and he is also an honorary life member, while last year he was considered by our Council worthy to receive the "Victory Medal." I am sure we are all delighted to see Mr. Rowe, with us and we hope that he will grace us with his presence at Red Lion Square as often as possible. (Hear, hear.)

I now feel inclined to make the same remark that Lady Godiva was overheard to have made when nearing the end of her historical ride:—It was "Thank God, I am getting near my clothes." (Laughter.) I wish to thank you once again, Mr. Mellows, for proposing the toast of the Central Veterinary Society, and you, ladies and gentlemen, for the way in which you have received it. (Cheers.)

PRESENTATION OF THE "VICTORY MEDAL."

The PRESIDENT, following a musical interlude at this point, continued: We have now arrived at a stage in the

proceedings at which I have something to give away. (Laughter.) It is a gold medal, and is called the "Victory Medal and Peace Medal." It was struck by the Central Veterinary Society to commemorate the victory of the Allies in the Great War, and is presented annually to that person who, in the opinion of the Council, has done most to deserve it.

This year our Council had no difficulty whatever in selecting a most worthy and distinguished gentleman to receive this medal. He is Professor Macqueen. (Loud cheers.) It is true to say that Professor Macqueen has had a finger in every professional pie of any importance since he qualified. He qualified about the middle of last century—to be exact, about fifty years ago, as this is Professor Macqueen's jubilee year—(cheers)—and this is not by any means his first medal, for if you will turn up the *Veterinarian* of 1877, not only will you find his name amongst the names of those who passed with great credit, but amongst the prize winners at the Glasgow Veterinary College you will read "Horse Pathology, Medallist—James Macqueen"; "Cattle Pathology, First-class Certificate—James Macqueen"; "Histology and Physiology, Medallist—James Macqueen"; "For the best Oral Examination in all subjects, Gold Medal—James Macqueen."

You will all agree that this was no bad beginning, and it is typical of the remainder of his career. You have all read his brief biography in a recent number of *The Veterinary Record*, so there is no need for me to enlarge upon his many honours, but suffice it to say that in 1915 he was held worthy by the Council of the Royal College of Veterinary Surgeons to receive that most coveted honour, the John Henry Steel Memorial Medal. (Cheers.)

In 1888 Professor Macqueen joined the staff of the Royal Veterinary College, and in 1895 was appointed Professor of Surgery. During his forty years as a teacher at that institution, some 1,500 graduates have passed through his hands, and I venture to say that not one of them feels anything but gratitude when he looks back and remembers the words of wisdom—sometimes witty, caustic often—that he heard in Professor Macqueen's lecture theatre. (Cheers.)

It may not be known to all of you that Professor Macqueen was one of the original committee which met in 1881 and was responsible for the establishment of the National Veterinary Congress; it was also at that meeting decided to form the National Veterinary Association, and it was as a result of that meeting, in July, 1881, that the final effort was initiated which at the critical moment succeeded in allaying opposition and was instrumental in having the Veterinary Surgeons Act of 1881 placed on the Statute Book. To be associated with such an important thing as that would make any member of the profession feel proud. This was forty-six years ago, and Professor Macqueen has not lost his interest in the "National," and least of all in this Society—one of its most important Divisions. Certainly no meeting of the Central Veterinary Society is considered to be complete without him, and when he is there we are assured that meeting will be both interesting and successful. (Cheers.)

Professor Macqueen, on behalf of the Central Veterinary Society, I congratulate you on the honour of your election as Dean of the Royal Veterinary College. (Loud cheers.)

As Professor Macqueen came forward, amid tumultuous cheering, the President added: I ask you to accept this gold medal as a token of our deep appreciation of your outstanding services to veterinary science. We hope you will enjoy your jubilee year and will attend our meetings as often as possible.

Professor JAMES MACQUEEN, F.R.C.V.S., who was received with musical honours, said, in the course of his acknowledgment of the award, in terms which drew almost continuous laughter from the company: This is a serious business. As I passed along the floor just now to receive this token of esteem and appreciation I felt very much like an undertaker's man calling for the body. My concern was how to get it away with as little publicity as possible. Now that I have got it I suppose I must say something. The expectation probably is that I shall say that this is the happiest moment of my life. It is not. It might have been if I had not to reply, but I do not wish you to gather that because I am a Scotsman I grudge giving my thanks. The sight of a piece of gold is always gratifying, and not necessarily only to a Scotsman. The beholder hopes to get nearer it, and if he sticks at it long enough he generally succeeds. As to your laudatory remarks, Mr. President, I can only say that I am exceedingly grateful. I am very glad to think that so many of my fellow practitioners should have thought me worthy of this honour. I hope that what the President has said is correct—at least, I won't dispute it, although, of course, one might criticise it as not being quite sufficiently correct.

My concern is not so much about thanking you for the medal as what I am going to do with it now that I have got it. I will keep it as long as I can—I can promise you that, but of course one never knows: a time may come when one will have to pledge it. Moreover, I cannot take it with me—I am not quite sure of the future. An admirer of the profession once said that all good veterinary surgeons, when they die, go to Hades, and as that is probably my destination I don't think I shall take the medal with me—not even if decorations are to be worn. I have some hopes, however, of not exactly being cut off from my old associates.

I must renew my thanks to you, Mr. President, for all your very nice remarks, and I hope that I shall live long enough to merit this testimonial. (Loud cheers.)

Major G. W. DUNKIN, M.R.C.V.S., D.V.H., proposed the toast of "The Visitors," saying: However much one may dislike the idea of after-dinner speeches, it would be ungallant for one in my position to think of such a thing when I have placed in my hands the toast which must surely be regarded as the most important toast of the evening. It has always been the custom of the Central Veterinary Society to extend to its visitors a very hearty welcome, and it is our desire that these visitors, both ladies and gentlemen, should have a most enjoyable evening.

To-night we have with us many distinguished visitors. We have representatives of the law, of human and veterinary medicine, of sport and of industry. As representing the law we have Mr. Mellows, Town Clerk of Peterborough, to whom you have all had the pleasure of listening this evening. (Hear, hear.) We have also our great friend Mr. Fred Bullock, the Secretary of the Royal College of Veterinary Surgeons, and by this time, of course, it is unnecessary

to add, Barrister-at-Law. (Cheers.) In human medicine we have Dr. Philip Turner, of the staff of Guy's Hospital. We have with us also two gentlemen whom we all know by repute, if not personally, in Dr. M. J. Rowlands and Dr. Halls Dally. (Cheers.) Both these gentlemen, as you know, have followed in the footsteps of the late lamented Professor Adrian Stokes. In sport—and, of course, veterinary surgeons cannot get on without sport—(hear, hear)—we have with us Mr. G. C. W. Fitzwilliam, who is joint master of the famous Fitzwilliam hounds, (Cheers.) We have also another association with sport in the presence of Major Cecil Pelham, Secretary of the M.F.H. Association. With regard to industry we have Mr. James Beaumont and Mr. Peter Tongue, who hail from the Patent Office; also Captain Pope, who is more than welcome by reason of his close association and close relationship with our President. Mr. Wight, the popular Secretary of the Royal Veterinary College, now much in the public eye, is very welcome. Professor James Macqueen—(cheers)—we have heard quite a lot about him to-night, but by no means too much. "Dear old Jimmy," as we call him now—and that is a term of endearment—(hear, hear)—we are very delighted to see you. Major Frank Chambers, representing the Midland Veterinary Society; and finally, we have two distinguished scientists from the colonies: Dr. S. S. L. Cameron, a member of our profession, formerly Chief Veterinary Officer and now holding the important administrative position of Director of Agriculture of the State of Victoria, Australia, and who is numbered amongst the Colonial delegates now visiting this country; and Captain Watson, Chief Pathologist to the Dominion of Canada. To these gentlemen, too, we extend a very hearty welcome. (Cheers.) I have thus far omitted, by design, to mention to you the name of our most distinguished President of the Royal College of Veterinary Surgeons—(cheers)—who is perhaps the most important gentleman in our profession to-day, in so far as he is President of the Council which is our licensing body; and we have also with us Mr. J. W. McIntosh, who is the President of the National Veterinary Medical Association. (Cheers.)

I commend to you, ladies and gentlemen, this toast, and couple with it the name of the President of the Royal College of Veterinary Surgeons. (Loud cheers.)

Lieut.-Col. J. W. BRITTLEBANK, C.M.G., M.R.C.V.S., D.V.S.M., President of the R.C.V.S., said in response: Let me first of all thank you very much for the very kindly way in which you have received the toast of the Visitors. Let me also say how proud I am to be called upon to respond on behalf of such a distinguished body of visitors as you have here to-night—and in making that remark I am leaving myself out of the distinguished list. ("No, no.")

It is a particular privilege, I think, to be allowed to speak to a gathering such as this. Your President tells me that this is a "record" dinner—that 122 sat down—(cheers)—and I, at the moment the titular head of the profession, am particularly glad to know that the profession, therefore, is not "going to the dogs." We have heard on many occasions—at any rate since I came into the profession, and that is a good many years ago now—hat the veterinary profession is no longer what it was, but if anything could be interpreted as an effective reply it is to have a gathering such as you have got here.

I am particularly delighted to come in my present capacity for the second year, and also because it gives me an opportunity of seeing your Victory Medal conferred upon your old friend, and my old friend, Professor Macqueen. (Cheers.) The veterinary profession is very fortunate in having had during the last thirty-five or forty years, at any rate, men who were able by their example and their work to set a very high standard to their students, to inculcate in them a deep sense of duty to a profession which numerically is only small and which possibly at one time was held in but small regard. There cannot be any difference of opinion that the regard in which our profession is held is steadily growing throughout the country—throughout the world, indeed—and that our importance in this great field of veterinary medicine is being recogniesd on all hands. (Cheers.)

We have not, it is true, the predominant part to play, but whatever part is apportioned to us will be taken and played in an unstinting manner, because I believe that our profession, in addition to containing hard workers, contains what usually a hard worker is, a very large percentage of sportsmen, men who play the game, and in this regard I am particularly glad to see and speak for Mr. Fitzwilliam, a distinguished Master of Hounds, to-night. (Cheers.)

But, in the years to come, what is to happen to our profession? I do not for a moment think that we need fear. Those who went before us laid the foundations too firmly for anything to be shaken. We have only to be true to ourselves to attain any position in this country, in our colonies, and indeed, throughout the world, which we may desire to occupy. That those positions will be important it requires no words of mine to assure you. One has only to read the proceedings of the conference which is just now terminating—the Colonial Conference on Agricultural Research, a large portion of the deliberations of which concerned veterinary research.

But I here want to say something which perhaps may not be pertinent to the response I have to make, and that is that I hope the day is long past when the research worker is regarded as someone extraordinary—set outside the ordinary practitioner. I visualise the position to be this: that our first duty as a Royal College is to the production in ample numbers of well-trained, well-educated, capable practical veterinary surgeons for the needs of practice, but they should be selected and the material should be available amongst them for the production of a sufficient number of research workers and specialists in all directions that may be required, either here or elsewhere, because it must stand to reason that your best research worker is he who, after all, has had an ample training from the practical side of his profession amongst the animals of the field. I venture to make these remarks because there is a tendency, I believe, to regard the research worker as someone quite peculiar, quite exceptional, and someone quite outside the ordinary sphere of attainment of the veterinary practitioner.

In thanking you, on behalf of the visitors, for enabling us to be here to-night, and speaking for the moment for myself, I must say that it is a great pleasure to me to see Captain Townson in the chair, and to congratulate him

on the exceedingly able way in which he has carried out his duties as your President this evening. (Hear, hear.) You have been most extraordinarily fortunate, as a Society, in the Presidents you have selected during the years I have known your Society. You are an extremely fortunate Society, I think, to have such a large number of the profession to draw upon so near to your centre. But because you are a fortunate Society in having such a large number of veterinary surgeons within your area, so also are your responsibilities all the greater. Your National Association—our National Association, let me say—is going to play a great part in the future of our profession—(cheers)—but there are still far too many members of the profession outside the "National." (Hear, hear.) As I have been saying to the President of the "National," I believe that the most strenuous efforts should be made in every possible direction to rope in every man; when you have done that you will have an Association which will be able to render very great services to the profession. The Royal College of Veterinary Surgeons cannot undertake much political work; it has undertaken a good deal in the past, but what I may term the legitimate work of the R.C.V.S. is growing to such an extent that it is difficult to cope with it. That it will diminish I believe to be impossible, but I also wish to say that so long as we have as our Secretary, Mr. Fred Bullock, you will have a Royal College which will be able to tackle any job that comes along. (Cheers.) I would like to take this opportunity of thanking Mr. Bullock once again for all he has done for me. (Hear, hear.)

I believe it is true that your Society has something like fourteen members on the Council of the Royal College. It has been said, indeed, Mr. President, that the Central Veterinary Society is really the Royal College of Veterinary Surgeons. (Laughter.) Well, if so, more power to its elbow. (Cheers.) So far as I am concerned, coming from those somewhat far distant fastnesses of Lancashire, I have never yet noticed any party feeling amongst members of the Council of the Royal College. I have been there now a good many years, and I can only say that I have yet to see the first member to come there to secure any purpose of his own. They come there to serve the profession, and I am satisfied that so long as you can get members of the profession to come forward to carry on its various duties, so long will you be honestly and well served. (Hear, hear.)

I thank you very much for the privilege of allowing me to be here and also for the very kind hospitality you have extended to all your visitors, including myself. (Cheers.)

The toast of "The Ladies" was in the hands of Major FRANK CHAMBERS, F.R.C.V.S., O.B.E., who, in commending it to the company, said that in the veterinary profession the women played a great part. He knew of no profession or occupation in which the men received such help from their women folk. Women could make or mar them, especially the young practitioners. They all knew the young man starting a practice, when he could not afford a clerk, how a lot depended upon the wife: she had to hold at bay the impatient client, to comfort the poor lady whose pet dog had tried to knock over a three-ton motor-lorry, and she had to receipt the bills when anybody was absent-minded enough to pay them. (Laughter.) He often thought that that toast should be coupled with the children. He must confess that he thought there could be none present that night who had a son, who, after witnessing the way in which their illustrious President had conducted himself on that occasion, had not a feeling or a wish that he might have a son occupying that exalted position—the position of the head of the premier Veterinary Society of the British Empire. (Cheers.)

There were now a certain number of ladies who had been admitted to the Royal College of Veterinary Surgeons, and he thought there was a great scope for them, especially in the realm of canine practice. (Cheers.)

In the course of an able and gracious reply on behalf of the ladies, Mrs. ROBSON said that she was extremely honoured by the compliment paid her that night in being asked to reply to that toast. Although she had no direct connection with the members of the Veterinary profession, yet, as the editor of a dog paper, she met many veterinary surgeons and, she might say, their wives.

Benedict veterinary surgeons were a somewhat unstable and trying quantity. (Laughter.) They invariably came home late, and when they did come home they were usually covered with mud. The wife of a veterinary surgeon was truly deserving of sympathy—when he did get a spare evening her husband could not take her out because his nose was always glued to the *Veterinary Record*.

But the wives had compensations, for they looked after the financial side of the practice. (Laughter). Another compensation, and the greatest of all, was that they were able to attend those delightful dinners. (Cheers.)

In spite of what Colonel Brittlebank had said, she thought it was obvious that, with the diminution in numbers of the horse, many eminent veterinary surgeons were now going to the dogs—(laughter)—while there was also no gainsaying that women were particularly suited to treating the diseases of small animals. Was it not better for the dog owners to have highly-qualified women attending to their pets than charlatans and quacks? (Hear, hear.) There was, she was sure, a tremendous field open to women to specialise in feline and canine diseases.

On behalf of her sister guests she thanked them for their warm appreciation of the ladies and for their very generous hospitality.

A happy evening closed with that time-honoured communal expression of good-fellowship, the singing of "Auld Lang Syne."

R.C.V.S. LIBRARY.

The following books and pamphlet have recently been added to the Library: Henkels, "Lehrbuch der Veterinarmedizinischen Röntgenkunde"; Kitt, "Lehrbuch der Pathologischen Anatomie der Hausthiere," 3 volumes, new edition; Fröhner, "Lehrbuch der Toxicologie für Tierarzte"; Conklin, "A Synopsis of the General Morphology of Animals"; Fish, "Urine of the Horse and Man," *Annual Report of the Imperial Institute of Veterinary Research, Muktesar, 1926.

*Pamphlet.

Books and pamphlets may be borrowed from the Library by members of the College on payment of postage both ways. Apply to the Librarian, 10 Red Lion Square, London, W.C.1.

DIVISIONAL REPORT.

Lincolnshire and District Division.*

MEETING AT LINCOLN.

The Autumn meeting of the above Division was held at Lincoln, on Thursday, October 13th, when the main subject of discussion was a letter from the "National," suggesting the formation of a Veterinary Inspectors' section within the division.

The President, Mr. F. L. Gooch, occupied the chair and there were also present Messrs. C. Hartley, A. J. Hines, J. Caldwell, W. W. Lang, E. Porter-Smith, W. J. Ironside, G. Lockwood, H. C. Reeks, Sen., and H. C. Reeks, Jun. (Hon. Secretary).

Visitor.—Mr. R. Swaby (Gainsborough).

Apologies for absence were announced from Messrs. C. Townsend, T. Holmes and H. P. Standley.

The *minutes* of the previous meeting of the Division, which had been published in the *Record*, were confirmed.

Correspondence.—From the General Secretary of the N.V.M.A., suggesting the formation of a Veterinary Inspector's Section within the Division.

In response to an invitation from the President to any members to express their views on the subject,

Mr. PORTER-SMITH said that in his opinion the formation of such a section was very desirable, and that he should be pleased to support such a movement.

Mr. LANG, declaring himself in favour of the proposal, stated that in Lindsey they had nine veterinary inspectors, not all of whom, however, were members of the Division. In his opinion, if such a section were formed it should certainly be under the auspices of the Lincolnshire Division.

An important point was the uniformity of fees.

The PRESIDENT then said that the formation of such sections was being strongly urged by the Council of the "National," and that most Societies had already fallen into line. He quite agreed with Mr. Lang as to the importance of uniformity as regarded fees.

He himself was an inspector under the Rutland and Kesteven County Councils, and the fees paid were different.

He thought that the best thing would be to appoint a small committee to go more fully into the matter, as such a course would strengthen the position of the Division with the local authorities.

Mr. LANG, having mentioned a communication which he had received from Gloucestershire, said that the whole question was one of expense, that the local authorities would chose the cheapest, and that part-time veterinary inspectors would find themselves in competition with whole-time men.

Mr. HARTLEY, replying to Mr. Lang, said that, in his opinion, Lindsey could be well administered by four whole-time men—a chief at £600 per annum, and three assistants at £400 per annum each. Such a staff would deal with the Tuberculosis Order and all Acts relating to the diseases of animals.

At present there were nine part-time inspectors in Lindsey.

In reply to Mr. H. C. REEKS, SEN., as to the cost to the County of part-time inspectors,

Mr. HARTLEY said that he could make no definite statement. He had it, however, from members of the Lindsey County Council and from their Clerk that under the Milk and Dairies Order the accounts varied from an average of 10d. per cow, to more than double that amount.

The PRESIDENT said that in Rutland there were three veterinary inspectors, working in conjunction with the Medical Officer of Health, who had a list of registered dairies. The inspections were made twice yearly. In Kesteven, to his knowledge, no steps had been taken to put the Milk and Dairies Order into force, except the appointment of veterinary inspectors.

Mr. PORTER-SMITH mentioned that it was now definitely illegal for any inspector of a local authority to take action in another's district, even if tuberculosis-contaminated milk were being sent into his district. Their own Local Authority must act and carry out the order.

In reply to Mr. Porter-Smith, Mr. HARTLEY stated that Sheffield had at one time refused to register a milk producer unless promised free access for examination by the Sheffield Authorities.

The question being raised as to what constituted "cows" for the purposes of examination under the order, Mr. LANG said that for the order, he thought, the only cows really concerned were those which were actually producing materials for human consumption at the time of examination.

In Gloucestershire, he understood, they examined milking cows, dry cows and in-calf heifers.

The PRESIDENT: It is now only those that are actually milking.

Mr. LANG said that he had examined eighty-one premises. He had charged 1/- per cow, *plus* 6d. per mile both ways. The County fees were limited to £2 2s. 0d. per day, and at that figure the cows would work out at 8½d. per head. On the same calculation Mr. Hartley's cows came out at 7d. per head.

Mr. H. C. REEKS, SEN. said that in parts of Holland the order was not in operation, and that he would like to know how full an examination was made.

Mr. HARTLEY: A purely clinical examination.

The PRESIDENT informed the meeting that his method was to take the temperature of each cow and to examine the udder. As a rule that was enough. In most cows which had an abnormal temperature the examination was carried further, and in any case of induration he took a sample of milk for examination, and held the cow up for fourteen days.

He also said that, in his district, many clinical cases of tuberculosis had been dealt with under the old tuberculosis Order.

The discussion then came back to the question of fees, Mr. LANG emphasising again his former statement that the part-time inspector would find himself in competition with a whole-time man; and that he must see to it that he cost no more. It was all a matter of expense.

Mr. HINES said that, such being the case, fees such as 1/- per cow, twice yearly, would certainly not be obtainable.

Mr. HARTLEY then remarked that, as far as Lindsey was concerned, there was a strong feeling on the Council that a whole-time inspector should be appointed.

* Received on 28th October.

The PRESIDENT was strongly of the opinion that a Veterinary Inspector's Section should be formed, and asked if any member would care to propose such a course.

Mr. PORTER-SMITH moved and Mr. LANG seconded accordingly and the motion was carried unanimously.

Mr. LANG: The great trouble is that so many inspectors, five, are not members of the Division, although one is a member of the Yorkshire.

The PRESIDENT then suggested that the Secretary should write to all practising veterinary surgeons in the county, pointing out to them the urgent need for unity in the affairs of the profession.

Mr. LANG said that a better way would be to nominate all veterinary inspectors in the County for membership, and that the Secretary should write to them to that effect.

Mr. CALDWELL: I should like to second that.

Messrs. Marshall, Beaumont, and Shaw, all inspectors under the Lindsey County Council, were nominated, and members present promised to do their best to get them to allow their names to go forward.

Nominations.—At this stage, other nominations for membership were received, as follows:—Mr. Geo. Eaton (Hallaton, Market Harborough), Mr. Gooch, jun. (Stamford), and Mr. R. Swaby (Gainsborough).

THE SANITARY INSTITUTE CONGRESS.

The PRESIDENT then made his report as delegate of the Division to the last Sanitary Congress held at Hastings, as follows:—

"Gentlemen. It is unnecessary for me to present a detailed report, as it has already been published in the *Record*, but you will notice that the section is now called Veterinary Hygiene.

"The general arrangements for the Veterinary Section were good. The section was well attended at both its sessions, about 100 being present at each session. At no time, however, were there more than twenty veterinary surgeons present, but a large number of medical officers of Health and sanitary inspectors, also ladies.

"The discussion on each of the papers was well maintained, being both informative and instructive.

"The President was well supported on the platform. Professor Kenwood being absent through illness, I had to follow Mr. A. W. Trotter in the opening of the discussion on Mr. Little's paper.

"In my opinion, if more veterinary surgeons availed themselves of the privilege of attending these congresses they would be well repaid, and would raise the profession in the eyes of the outside world."

A vote of thanks was passed to Mr. Gooch on the proposition of Mr. LANG, seconded by Mr. HARTLEY.

"Informal Discussion" being an item on the agenda, the President then asked if any member had any subject of interest which he would like to bring before the meeting.

Mr. HARTLEY asked if any member had any experience of bacterial necrosis of the liver in cattle. He had recently encountered such a case. The subject was an old, heavy milking cow, in rather poor condition.

The symptoms shown were a complete cessation of lactation, eating, and rumination, with a temperature of 107.8°. The bowels were not acting, although there was not ympany.

She lived five days, and at the *post-mortem* the areas of apparently bacterial necrosis in the liver were the only discoverable abnormality.

Some discussion followed Mr. Hartley's description of the case, Mr. LOCKWOOD remarking that, save for the absence of any diarrhœa, coccidiosis might have had some connection with the trouble.

R.C.V. Rebuilding Fund.—Before the close of the meeting the PRESIDENT drew members' attention to the R.V.C. Rebuilding Fund, remarking that he was sure that all would do their best in such a cause, even if the London College were not their *alma mater*. He suggested that some subscription should be sent from them as an association.

After some discussion it was unanimously agreed that the sum of £5 5s. 0d. should be forwarded by the Division to the Fund.

A vote of thanks to the President for his conduct in the chair concluded the proceedings.

HARRY C. REEKS, *Hon. Secretary.*

SHEEP WITH BROKEN JAW.

The following interesting communication, under the above heading, appeared in a recent issue of *The Field*:—

"SIR,—The following incident is probably unique and may be of interest. When sheep dipping was in progress on July 16th, a Dorset Down stock ram, which was the last of a batch of sheep in the catching-pen, attempted to jump the whole length of the swim-bath and landed on the piont of his chin on the brick steps at the outlet, in doing which he broke the fore part of both branches of the lower jaw, knocked out two front teeth, dislodged others and cut his lip badly. The first thought was to send him at once to the butcher, but I decided, after consulting my veterinary surgeon, to attempt to set the bones. A splint was fixed under the jaw, kept in place by bandages over the nose fastened by strips over the head and under the neck and tied to a collar behind his ears. The ram was put in a loose-box and fed with oatmeal gruel and milk (1 quart night and morning) passed through a funnel and rubber tube into his mouth. He also swallowed cold water through the tube. This was done for three weeks, during which time his mouth was flushed with cold water and hydrogen peroxide and, latterly, with permanganate of potash solution. For the first week a hose pipe was turned on to his mouth slowly for about ten minutes twice daily as the wound inside the mouth gave trouble.

"When the bandages were removed the jaw was seen to have been more damaged than we had at first supposed, one side showing evidence of compound comminuted fracture, and a piece of loose bone was removed. The inside of the mouth was still sore over the fracture on one side. In spite of this, and the obvious stiffness of the jaw as the result of being bandaged tight for three weeks, the ram attempted to eat linseed cake and crushed oats at once, but for a whole week refused any form of green food. We kept a bucket of water always by him and he spent a great part of his time alternating between swilling his mouth at the bucket by working his tongue in the water and in licking a piece of rock salt which was kept in the trough. In fact, between washing his mouth and licking salt, he contributed largely towards the healing of the sore in his mouth. After being six weeks undor cover, and when he was able to consume a normal amount of dry and green food, he was considered fit to turn out again, and at the end of the seventh week he was put out with some ewes for service.

"He was very heavy at the time of the accident and it is remarkable how he kept up his condition under artificial feeding. One wonders how the food which was in the

(*Continued at foot of first column next page.*)

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 21st—Meeting of the Editorial Committee, N.V.M.A., 4-30 p.m.

Nov. 23rd—Meeting of the Western Counties Division at Plymouth.
Meeting of the Section of Comparative Medicine of the Royal Society of Medicine, 1 Wimpole Street, W.

Nov. 25th—Meeting of the Royal Counties Division, 10 Red Lion Square, W.C.

Dec. 1st—Meeting of the Central Division at 10 Red Lion Square, W.C.

Obituary.

Hutchins.—On 8th November, at Reendesert, Bantry, Emanuel Hutchins, M.R.C.V.S., late S.V.O., Uganda, third son of the late Samuel Newburgh Hutchins, of Ardnagashal, and Mrs. Hutchins, Reendesert, Bantry, Co. Cork.

Death of a London Final Year Student.

It is with deep regret that we record the death, on the 30th of last month at the age of 21, of Mr. E. Langley, of Allangate, Newmarket, a Class D Student at the Royal Veterinary College, Camden Town, who passed away in the London Hospital following an operation for appendicitis. Mr. Langley was a native of Newmarket, where he was looked upon as a promising amateur rider. His father has long been Newmarket correspondent to one of our leading daily papers.

He entered the R.V.C. in October, 1923, and was due for his final this Christmas.

One who knew Mr. Langley well, writes: "A good sort and true sportsman, as befits one from his native heath, he entered into all aspects of his college life with zest.

"On the social side he was always ready to have a go at anything and he was a useful member of the rugby xv. He was a member of the water polo team and in the water he was pre-eminent. As was fitting to one coming from a family of swimmers, he had held the 440 yards breast stroke championship of Suffolk for the last three years and had assisted his home team to win the Yarmouth Hospital Cup and the Cochrane Cup this year.

"When in hospital and lying dangerously ill, his pluck was wonderful and he quickly gained the regard and admiration of his attendants and fellow patients. Visitors had to go primed with all college news and were sure of a searching cross examination.

"It is interesting to note that Mr. Langley's great grandfather was one of the original graduates from the London College, his diploma being a treasured family possession."

(*Continued from previous page*).

first stomach at the time of the accident was digested, as the jaw being bound up he was unable to bring up his cud. In this connection I might have said that for the first two days after the accident he gave us some anxiety by being rather "blown up," but this condition responded to linseed oil and turpentine. I shall be interested to hear if any similar treatment of a ruminant is recorded. I have heard of the setting of a horse's jaw after fracture, but here the digestive processes would appear simpler.

"H. R. Watson.

"(A very interesting case, not only from a surgical point of view, but from the physiological, showing how even the complicated ruminant digestion can adapt itself to circumstances.—Ed.—*The Field.*)"

The funeral took place at Newmarket on Wednesday the 2nd of November, and the large number of local inhabitants who gathered to pay a last tribute was a testimony to his popularity at home. Amongst the large number of floral tributes were two, in college colours, from the staff and students at the R.V.C.

The College was represented by Professor McCunn and Messrs. Stevens and James, and the veterinary profession by Professor Reynolds, of Newmarket.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

"Where Do We Stand?"

To the Editor of The Veterinary Record.

Sir,—Sir John Moore's able and interesting article in your issue of November 5th raises many points of supreme interest to our profession. His claim that Veterinary Medicine should have its proper place—a great place—in the life of the community, and that the Royal College of Veterinary Surgeons should receive the recognition which is its due, must command the sympathy and consideration of everyone. I cannot, however, altogether agree with him in his attitude towards research.

The term "Veterinary Science" is a collective one, embracing a great many different separate sciences; each of these sciences may be divided into a pure and an applied branch, although in some cases the dividing line is not very clear. It is accordingly impossible to isolate it in water-tight compartments—as Dr. Bradley has recently pointed out in his address before the Royal Society of Medicine—and it is difficult to admit the hypothesis that pure scientific research—no matter whether concerned with man, plants or animals—can be regarded as a vested interest or the special prerogative of any particular body of workers. Such an attitude, for example, would have entirely nullified the work of Louis Pasteur (a chemist).

The subject of Parasitology, to quote an example with which I am familiar, is partly a branch of pure Zoology and partly a branch of the Medical Sciences. Its zoological aspects—classification, morphology, life-histories, etc.—must be investigated by a zoologist. (It is no disadvantage if the zoologist is also a veterinarian, but it is not a necessity.) The medical aspects, including the therapeutical and clinical sides, must be treated by the man trained in the appropriate branch of medicine (human or veterinary). This principle has been long recognised in human medical circles, and it is tacitly admitted in veterinary medical circles. We cannot, therefore, logically claim that the life cycle of a parasite must be investigated by a veterinarian, although the study of the symptoms of the disease caused by that parasite would best be in veterinary hands.

In a like manner, genetics is a branch of biology, and nutrition a branch of physiology, and their investigation must be in the hands of a biologist and a physiologist respectively. We need have no feeling of alarm that such a person should also possess a medical qualification (human or veterinary) although we can insist that this need not be the case.

In short, sir, a distinction between science and applied medicine must be admitted, and there is no valid reason why sciences which ultimately in their effects bear upon medicine—human or veterinary—should be conducted under the direction of medical or veterinary practitioners. If a more or less remote influence on veterinary or medical science is to be taken as the criterion, this would logically involve the domination of all branches of science by these professions. The fact that many of the scientists specialising in these branches of pure science have medical qualifications is beside the point. In most cases this

qualification was obtained because the prospects in biological research were so precarious that some qualification on which the scientist could fall back was a necessity. In the old days pure scientists almost always had some such qualification. Astronomy was investigated in many instances by graduates in Divinity, but that has obviously given the Church no monopoly of this subject. Security of tenure has largely removed this necessity for an alternative qualification in the older subjects, and as security increases in the newer branches it will disappear there also.

The attitude of our own profession towards research has, in many cases, been (and in many cases still is) entirely wrong. Some few years ago I heard a veterinary surgeon declare that if more opportunities for clinical experience were not afforded the young graduate, he must perforce fall back on research. Surely research is not and never will be an alternative to practice, and the one cannot be compared with the other. The type of mind, the temperament, and the outlook of each is entirely different and few successful research workers would make good clinicians. The research type of mind is, moreover, a personal character which cannot be manufactured. Such minds among members of our profession should be encouraged and opportunities afforded for their development—as is at present being done in Pathology. Nevertheless, the possession of a Diploma of the R.C.V.S. does not, *ipso facto*, qualify a man to direct research—even if it is admitted that it qualifies him to undertake it. A long and arduous and often very unremunerative period of training is necessary before any person can do this. If our schools would take steps to provide such facilities and would encourage students of the right temperament to take advantage of them, then we would have many more veterinarians taking places of responsibility in the ranks of pure science and we would enormously increase the status of our profession. The recent raising of our entrance examination should considerably assist this.

I have, of course, been referring to research in the complementary sciences and not to clinical research—an equally important branch, somewhat neglected, but fundamentally distinct—which the veterinary surgeon can surely succeed in retaining for himself.—I am, etc.,

THOMAS W. M. CAMERON.

London School of Hygiene and Tropical Medicine,
23 Endsleigh Gardens,
Euston Road,
London, W.C.1.
7th November, 1927.

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TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Sir Frederick Smith, in his letter published in your issue of the 12th inst., referring to the non-inclusion of a veterinary representative on the Royal Commission on Agriculture in India, and the unthinkable position of a civil veterinary service without a veterinary head "to ensure an effective organisation of the Department to deal with the control of disease in that vast country," asks the question: "Could such a lamentable state of affairs exist in any other public service?". Without appearing to stress unduly the condition of civil veterinary services in India, and from no captious purpose but rather, in all propriety, to bring into stronger relief an essential aspect of administrative procedure, I wish to amplify what I have previously written on the subject. To Sir Frederick Smith's query I unhesitatingly say that it would hardly be possible to find so lamentable a parallel in any public service or in any country with pretensions to good administrative order and economic progress.

In India, including the Indian States, according to the census of 1924-25 there were 221,262,642 animals which came under the designation live stock, and constituting a large part of the wealth of the 72 per cent. inhabitants who live on the land and follow agricultural pursuits. In all probability the number of animals is under-estimated, as the machinery of reporting fails in its completeness and accuracy. At all events, the number is stupendous enough to prove my present purpose. Agriculture in India, in the main, depends on cattle for its motive power—transport and marketing are chiefly carried out through animals and, indeed, animal husbandry altogether forms one great problem.

The governing factor of the animal situation in respect to agriculture and its success is disease and the prevention of disease. Everybody knows that the amount of animal disease in India is appalling, and yet, unlike the political atmosphere, placid contentment remains undisturbed. Surely, in view of the large animal population possessed by India and the well-known excessive prevalence of disease, the commonsense thought of including a veterinary representative in the constitution of the Royal Commission on Agriculture, India, must have occurred to the mind of someone in the negotiations between the Government of India and the Secretary of State on the one hand and the Provincial Governments on the other. Unless the constitution of such commissions provides for the inclusion of members who are competent to interrogate witnesses and join in deliberations, their value is lost. The terms of reference of this Royal Commission are divided into general and particular and in the latter item veterinary research is included for investigation. People nowadays talk glibly about research as if it was the sum and substance of everything: it has become a catchword and a fetish. Though quite necessary—and more power to it—it is not the first plank of the veterinary platform in India. The first and crying necessity is proper and reponsible veterinary administration. Veterinary research can be put under it. It seems very strange that the Government of India, centrally supreme, should have divested itself of its powers in relation to animal health, transferring everything to provinces and not even retaining the vestige of co-ordination in veterinary administration. It is most necessary that the Government of India should get back the controlling hand in animal disease.

I may illustrate my point by what happened from 1919 to 1921, when I was Director of Veterinary Services of the Army in India; that is to say, at the commencement and during the early days of the Reform Scheme. The Army at the time was engaged in frontier warfare, from the Khyber, through Waziristan to Baluchistan. Large numbers of animals were required for transport, extensive depôts for food on hoof—cattle, sheep and goats—had to be established, even branch military dairies were provided at places convenient for field hospitals. There being no formalities in respect to movement, animals were drawn from and purchased in various provinces and drafted forward, the meat on hoof usually travelling distances by road before purchase. It is impossible, under existing circumstances, to escape severe visitations and inconvenience from the ever present foot-and-mouth disease, rinderpest, and surra, to say nothing of the occasional occurrences of anthrax and certain ill-defined diseases of sheep. On the army representing its difficulties to the Government of India in the Revenue and Agriculture Department (present Department termed Education, Health and Lands) we were informed that veterinary service was a transferred subject and that control of disease rested with Provincial Authorities. One need not know very much about India to realise the impossibility and the futility of pious hopes: optimism dies a painful death in that country. However, it was further represented by the Army that the time had come when the Government of India should seriously consider the introduction of a proper Diseases of Animals Act, embracing the whole of India, there being at that time an antiquated Glanders and Farcy Act under which surra had been scheduled, an old Madras Cattle Act dating from the sixties, and certain regulations covering importations from animals abroad—nothing more. As there was no head of Civil Veterinary Services with the Government of India, I was asked if the framing of such an Act could be undertaken by my Directorate. This was done; copies of all Acts and Orders were obtained from the Ministry of Agriculture, London, and a complete Diseases of Animals Act, India, drawn only with inset Orders for the various diseases incidental to the country, easy of application, and specially framed

to avoid wounding the feelings inhabitants in respect to animals. It was submitted to Provinces for opinion, and though years have elapsed no outcome is apparent, and the draft Act has perished in the chaos of provincial administration under a so-called Reform Scheme.

Nothing short of direct insistence and a strong hand by the Government of India will solve the Contagious Animal Disease question and the prosperity of the .livestock industry of the country to which it bears relation. It is impossible to conceive how this can be effected without a head to the Civil Veterinary Services who, as the accredited veterinary administrator under the Government of India, would have more than sufficient as a whole-time officer in the co-ordination of his Department under Provincial administrations. Moreover, through the Foreign and Political Department of the legislature this officer could be made advisory to the Indian States, as it would be essential to include all India in proposals for the control of contagious disease. In the instructions to the Royal Commission on Agriculture, India (quoted from India in 1925-26 prepared for presentation to Parliament by the Director of Publications, Government of India) it is stated as follows: "It is not within the scope of the Commission's duties to examine . . . the existing division of functions between the Government of India and the Local Governments. But the Commission shall be at liberty to suggest means whereby the activities of the Government of India may be co-ordinated and to indicate directions in which the Government of India may usefully supplement the activities of Local Governments." Can any member of our profession with a knowledge of contagious and specific animal disease be in doubt as to the proper means whereby co-ordination may be fulfilled ? Yours truly, J. MOORE.
128 Queen's Road, W.2.
14th Nov., 1927.

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TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—It is most gratifying to see that this question has been raised by Sir John Moore and endorsed by Sir Frederick Smith. The influence of these gentlemen in and outside the profession should be invaluable to us in our struggle for recognition and representation where we are concerned with the vital interests of the people.

Were "*Vis Unita Fortior*" more than mere words to so many of us, our status to-day would have been fully established, and in all fairness to the public, our sister profession and the Government we must accept a good deal of the responsibility for continuing to play the part of Cinderella. There has always been a lack of cohesion and courage in the profession and we cannot very well blame others for thrusting us aside if we do not fight for our rights. Our protests are ever marked by their feebleness and until we stand as one man our progress will be slow. Allow me to illustrate our apathy by relating a couple of incidents of days gone by that have left their mark, and which should never have been allowed to stand if we had had a strong governing body backed up by the whole of the profession.

Prior to the War I brought before the Central Society a letter from the War Office asking gentlemen and veterinary surgeons to put down their names to act as purchasing officers and veterinary officers for the Remount Department in the event of mobilisation. The pay was to be three guineas a day for the gentlemen, who were supposed to have some knowledge of horses, and 10s. 6d. a day for the veterinary surgeons. I drew attention to this indignity, if not insult, and a committee was appointed to approach the War Office with regard to adjustment of it. To my disgust the committee was elated at having succeeded in getting the pay of the veterinary surgeons raised to two guineas a day. They were still underdog to the purchasing officer. The ethical point was absolutely missed. It is scarcely conceivable that many of our members, to their everlasting shame, accepted the terms of 10s. 6d. a day. I believe not one word of protest came from the Council or any other body than the Central Society.

The second incident to be recalled was at the time the Americans came into the War. Civilian purchasing and veterinary officers engaged in the U.S.A. were advised of the desirability of holding a Commission. The purchasing officers, laymen, bear in mind, were offered an Honorary Majority, while the veterinary surgeon was offered a Temporary Captaincy.

Was one word of protest raised ? If so, few, if any, of us ever heard of it. Not a word of advice from our Council to the veterinary surgeons to whom this indignity was offered. As all but those who preferred to join the T.A. accepted the offer, perhaps they saw no slight or injustice to us. Would the B.M.A. and R.A.M.C. have allowed their members to submit to such conditions ? Never.

So long as the control of the profession and its ethics are so slack we shall be slighted. Therefore, I submit that we should first fortify ourselves by tightening up the ethical side of the profession and making every member fall into line. No other profession or trade would stand the slights to which we submit without a murmur. Nor would they allow such lack of control of the members.

Sir John Moore has set the ball rolling ; let us speed it up, not only for our own sakes and for those who will follow us, but in duty bound to the memory of the great men whose devotion to the cause left us a heritage of which, in spite of its drawbacks, we have every reason to be justly proud.—I am, Sir, faithfully yours, REG. F. WALL.
128 Queen's Road,, W.2.
14th November, 1927.

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TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—May I express my views on the above subject ? In doing so, I in no way wish to give offence to any of my colleagues and I trust that great allowance will be given me in stating my honest opinion—an opinion that is almost impossible to express without appearing to be scurrilous.

Sir Frederick Smith plainly and rightly states in his letter "When we are not represented on an enquiry where we have a right to be present, it is not due to forgetfulness . . . but to a deliberate and ancient policy to belittle the men engaged in the doctoring of animals."

Why is this ? It must surely be because a veterinary surgeon has *in the past* been looked upon as an uneducated fellow—a somewhat glorified herd or stud groom—in fact, a man of not sufficiently good social standing to be considered worthy of an invitation to enter into a discussion with gentlemen forming a committee of enquiry. That, I think, is the plain truth—no matter how badly expressed or how much we wish to evade it.

Now, how do we as a profession stand to-day ?

General Smith points out that even in this enlightened and democratic age we are still belittled and kept reminded we are bottom dog and should so remain.

Surely, to-day, when the highest in the land are doing all sorts of jobs for a living, *i.e.*, keeping shops, tea houses, pig farms and even taxis, the mere fact of doing anything so "low" as to tend the sufferings of dumb animals cannot be the real reason why the powers that be think so little of us.

No, I am compelled to believe it is due to the fact that the mode of entering the profession is to a large extent a hindrance to obtaining the better educated type of candidate.

I ask, is it reasonable to expect parents of boys from good public schools to allow their sons to run wild at Camden Town for four years to enable them to take the Diploma of M.R.C.V.S. ? I presume, though I may be wrong in doing so, that a student while at Camden Town may live where he likes, more or less do as he likes, and associate with whom he likes, so long as he conducts himself properly within the precincts of his College (a few hours a day). When his lectures are over he may go and do as he pleases.

Everyone knows that at a University like Oxford or Cambridge, students are kept under strict discipline. They may not lodge except either in their College or a licensed lodging house when they must be indoors by midnight. They may not enter a public house or even an hotel for drinks and if they go to a picture house or theatre they may only occupy good-class seats, etc., etc.—in a nutshell, they must conduct themselves as gentlemen.

Surely the difference in the lives of the two sets of students must of necessity be very great and we must not lose sight of the fact of the enormous advantages a 'varsity undergraduate has in associating with desirable people who, in later life, are often very influential men.

I picture this contrast because I feel that we are making a sad and cruel mistake in not doing all in our power to have the R.C.V.S. affiliated to such a university. We now have, or had, an opportunity which cannot recur for many generations of having the College rebuilt as a part of Oxford or Cambridge. If it were once done the profession would immediately be brought before the eye of the public and enlist the sympathy of influential people. We would automatically demand recognition.

Professor Hobday, some little while ago, spoke of the veterinary profession as the Cinderella of professions. Well, if we are, I cannot see, as there are not many fairy godmothers about these days, how all our grumblings downstairs in the kitchen will help us unless we can entice some of the upstair folk to come and join us.

Actual veterinary surgery and medicine must be attractive to many nicely-minded people. It must, therefore, be the unpalatable way of obtaining one's diploma that puts many parents and guardians of public schoolboys effectively " off."

Let us aim at our profession consisting of men of equal education and social standing with the other professions and our " bottom dog " treatment will soon end.—Yours faithfully, W. E. PHIPPS.

Avenue Cottage,
Summertown,
Oxford.
14*th November*, 1927.

Clinical Evidence and Biological Tests.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The subject of immune bodies has always appeared to me to be one of unlimited interest, and provides a field for the exercise of no little resource, both in demonstrating their presence, and interpreting the result of their discovery. The fact that immune bodies can be demonstrated in the blood of animals logically points to the fact that they are recovering or have recovered from a particular disease. Certain biological tests have been found so useful that they have been used as routine measures for demonstrating the presence of antibodies manufactured by the host against certain definite bacteria. From this it may be inferred that the animal has at some time been infected with such bacteria; and in conjunction with clinical evidence one may satisfactorily prove that they are still infected.

But the test by itself does not prove that an animal is infected at all, and rather points to the fact that it has recovered, at least to a certain extent—possibly completely. Negative evidence in these cases proves very little, and only indicates that the host has not made any steps towards recovery at the moment the test is made, that is, with a demonstrable antibody—possibly other more abstruse antibodies may exist although their demonstration may not be possible. This somewhat involved statement is made with the object of emphasising the value of clinical evidence *versus* biological tests that have been routinised, and of the exact value of which sight has been lost. Clinical evidence is direct evidence. From biological tests one may only infer, and errors may creep in at every step.—Yours faithfully, EDWARD B. D. HALL.

Kettering.
10*th November*, 1927.

The Editor acknowledges the receipt of the following—

Report of a meeting of the North Midland Division, from Mr. J. S. Lloyd, *Hon. Secretary.*

Communication from Mr. R. L. Higgins.

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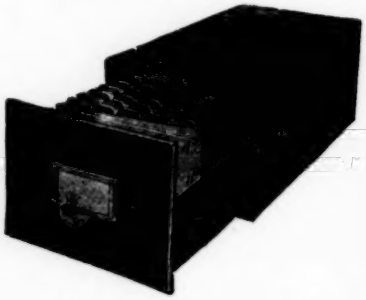

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